

Surat Basin population report, 2021

Introduction

The resource sector in regional Queensland utilises fly-in/fly-out and drive-in/drive-out (FIFO/DIDO) workers as a source of labour supply. These non-resident workers live in regional areas while on-shift. The Australian Bureau of Statistics' (ABS) resident population estimates for these areas do not include non-resident workers.

The non-resident population represents the number of FIFO/DIDO workers who are on-shift in the region at a given point in time. This group includes those employed in construction, production, and maintenance at mining and gas industry operations, renewable energy projects and resource-related infrastructure.

This report provides non-resident population estimates for the Surat Basin during the last week of June 2021. It also includes full-time equivalent (FTE) population estimates, which aggregate the resident and non-resident populations to provide a more complete indicator of demand for certain services.

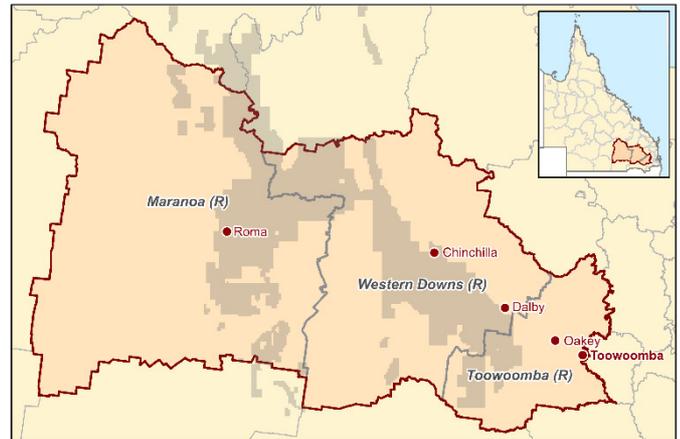
Estimates within this report are primarily derived from the annual Survey of Accommodation Providers conducted by the Queensland Government Statistician's Office (QGSO). The survey includes worker accommodation villages (WAVs), hotels, motels and caravan parks.

Key findings

Key findings of this report include:

- The Surat Basin had an estimated non-resident population of 3,625 persons in June 2021, around 365 persons (or 11%) higher than in June 2020.
- Non-resident population growth in 2020–21 was driven by the construction of multiple renewable energy projects, as well as coal seam gas (CSG) development, ongoing CSG activity and other resource industry operations.
- At the LGA level, Western Downs (R) had a non-resident population of 2,640 persons (or 73% of the regional total) in June 2021. Maranoa (R) (865 persons or 24%) and Toowoomba (R) (120 persons or 3%) made up the balance.
- The non-resident population of Western Downs (R) increased by 585 persons or 29% in 2020–21. Numbers declined in Maranoa (R) (-210 persons or -20%) and Toowoomba (R) (-10 persons or -9%) over this period.
- In June 2021, around eight in ten non-resident workers in the Surat Basin stayed in WAVs while on-shift (2,885 persons or 80%). The remainder (740 persons or 20%) stayed in other accommodation types such as hotels/motels and caravan parks.
- More than half of the Surat Basin's non-resident population (1,985 persons or 55%) in June 2021 was counted in town rather than in rural areas. In Western Downs (R), most stayed in town (1,730 persons or 66%), while in Maranoa (R), comparatively few non-resident workers on-shift were counted in town (135 persons or 16%).
- In Western Downs (R), non-resident population growth in 2020–21 saw increased usage of all accommodation types. In-town WAVs recorded the largest increase (365 persons), followed by other accommodation (155 persons). This growth was driven by renewable energy project construction, as well as CSG development and operations activity.
- The proportion of hotel/motel rooms in the Surat Basin that were vacant and available decreased from 51% in June 2020 to 37% in June 2021, with increased occupancy recorded in all three LGAs.
- Compared with June 2020, sentiments expressed by accommodation providers in the Surat Basin in June 2021 were more positive and indicate an overall improvement in business conditions over this period.

Figure 1 Surat Basin region



The Surat Basin – at a glance

The Surat Basin (Figure 1) is a major energy region, based on coal seam gas production, coal mining and electricity generation. The region comprises the local government areas (LGAs) of Maranoa (R), Western Downs (R) and Toowoomba (R).

Estimated population at June 2021:

Non-resident population	3,625
Resident population	218,780
Full-time equivalent population.....	222,400



Surat Basin update, 2020–21

The Surat Basin (Figure 3) in Southern Queensland is a major energy region and Queensland's main source of CSG supply. CSG-related activity continues to provide most of the region's resource-related employment, with three large CSG projects—Australia Pacific LNG (APLNG), Santos Gladstone LNG (GLNG) and Queensland Curtis LNG (QCLNG)—and smaller gas companies engaged in operations and development. Coal mines, power stations and renewable energy projects also contribute to resource industry activity in the region (Table 5).

In 2020–21, the Surat Basin's gas industry continued to be affected by the lingering impacts of low prices and general uncertainty as the global economy recovered from the COVID-19 pandemic (DISER, 2021). During the year, the three major CSG projects adapted their operations and drilling activities in response to market conditions.

- **APLNG's** production in 2020–21 was relatively stable compared with the previous year, despite a significant reduction in development activity, due to strong field performance and operating efficiencies (Origin Energy, 2021a; Origin Energy, 2021b). Strong field performance enabled a ramp down in drilling, with 86 wells drilled over this period.
- In the first half of 2021, **GLNG** focused on lowering gas well costs, driving down operating cost and increasing production (Santos, 2021). A strong ramp up at the Roma field supported record upstream production in the first half of 2021, with 110 wells drilled across the GLNG acreage over the six-month period.
- **QCLNG** progressed Project Goondooloo, which comprises about 250 gas wells (Shell, 2021). Drilling commenced in April 2020, with 93 wells drilled by the end of June 2021. Also, construction of a new accommodation camp in the northern area of QCLNG's gas fields was underway in June 2021.

Two new gas development and infrastructure projects began in 2020–21. The 600-well first phase of Arrow Energy's **Surat Gas Project** commenced construction in October 2020 (Arrow Energy, 2020; Arrow Energy, 2021). Drilling activity and infrastructure construction were in progress near Dalby in June 2021. Senex Energy's infrastructure partner Jemena also began the **Roma North Gas Processing Facility Expansion**, with construction underway in June 2021 (Jemena, 2021). This followed Senex Energy's investment decision to expand production at Roma North by 50 per cent (Senex Energy, 2021).

Development of renewable energy projects in the Surat Basin advanced significantly in 2020–21, with eight projects under construction in Western Downs (R) in June 2021 (Figure 3). Six projects commenced construction during the year: X-ELIO's **Blue Grass Solar Farm**, Hana Financial Investment's **Columboola Solar Farm**, FRV Australia's **Dalby Hybrid Power Plant**, Sapphire Energy's **Edenvale Solar Park**, Vena Energy's **Wandoan South BESS**, and Neoen Australia's **Western Downs Green Power Hub** (Columboola Solar Farm, 2021; FRV Australia, 2021; Sojitz Corporation, 2021; Sterling and Wilson, 2020; Vena Energy, 2020; X-ELIO, 2021). Works also continued on AGL Energy's **Coopers Gap Wind Farm** and Shell Energy's **Gangarri Solar Farm** (PARF, 2021; Powerlink, 2021; Shell Energy, 2021). All these projects are situated close enough to nearby urban centres and localities for construction crews to stay in town while rostered on for work.

The Surat Basin's non-resident population was larger in June 2021 than in June 2020, when CSG activity was disrupted by the combined effects of low gas prices and the COVID-19 pandemic (QGSO, 2020). While the three major CSG projects continued to face challenging market conditions during the year, the number of non-resident workers on-shift in the region was boosted by the concurrent construction of multiple renewable energy projects and CSG development.

Non-resident population

The non-resident population of the Surat Basin was estimated at 3,625 persons at the end of June 2021, around 365 persons or 11% higher than in June 2020 (Table 1).

Most of the region's non-resident population in June 2021 was located in Western Downs (R) (2,640 persons or 73%). Around one-quarter was in Maranoa (R) (865 persons or 24%), with the remainder in Toowoomba (R) (120 persons or 3%).

The non-resident population of Western Downs (R) grew by 585 persons or 29% in 2020–21, driven by a significant increase in renewable energy project construction and supported by CSG development and operations activity. In Maranoa (R), the non-resident population fell by 210 persons or 20%, with fewer non-resident workers engaged in CSG activity.

The non-resident population of Toowoomba (R) was almost unchanged, falling by 10 persons or 9% between June 2020 and June 2021. Compared with the other LGAs, Toowoomba (R) has a much smaller non-resident population, which largely comprised workers engaged in CSG activity and power station maintenance, as well as road and rail workers.

Non-resident population

The non-resident population is the number of fly-in/fly-out or drive-in/drive-out (FIFO/DIDO) workers who are living in the area of their workplace at a given point in time, and who have their usual place of residence elsewhere.

Due to shift arrangements, not all members of the non-resident workforce are present in the local area at one time. For that reason, the non-resident population refers to the number of non-resident workers on-shift at a given point in time, rather than the total non-resident workforce.

Table 1 Non-resident population, Surat Basin LGAs, as at June

LGA	2020	2021	Change, 2020 to 2021	
	— persons —	— persons —	persons	%
Maranoa (R)	1,075	865	-210	-20
Toowoomba (R)	130	120	-10	-9
Western Downs (R)	2,055	2,640	585	29
SURAT BASIN TOTAL	3,260	3,625	365	11

Figures in tables in this report have been rounded to the nearest five; see Notes at end of report for details.

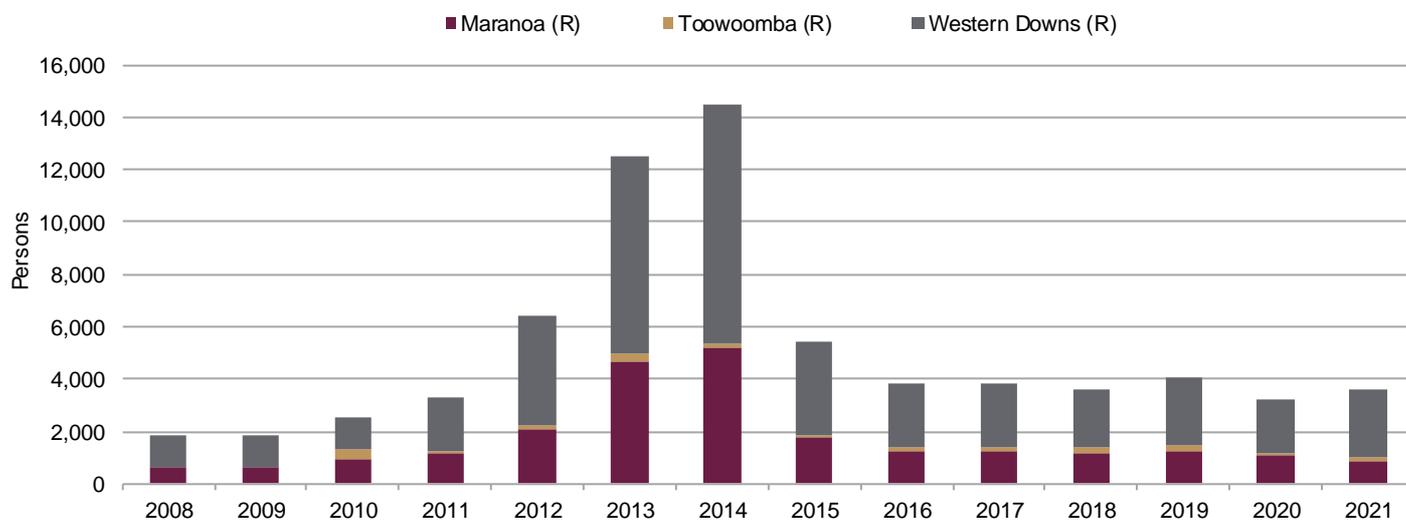
Source: QGSO estimates

The time series in Figure 2 shows that the non-resident population of the Surat Basin reached a peak of 14,490 persons in June 2014, before declining to 5,425 persons in June 2015. The rapid population increase prior to 2014 and subsequent steep decline reflect the presence of large, temporary FIFO/DIDO workforces engaged in the construction of major infrastructure for three large CSG projects, and the workforce transition from the construction to production phase.

Since June 2016, the region's non-resident population has largely comprised the ongoing production, maintenance and drilling workforces of the major CSG projects, with development activities focused on expanding gas production to improve and sustain gas supply. From 2016 to 2019, the non-resident population was comparatively stable, at between 3,625 and 4,040 persons. Construction of additional gas gathering infrastructure, gas expansion projects, and major maintenance events contributed considerable numbers of non-resident workers on-shift. Workforces associated with smaller gas companies, renewable energy project construction, power station maintenance, coal mining, road and rail works also had a smaller influence on the non-resident population over this period.

The region's non-resident population decreased from 4,040 persons to 3,260 persons in the year to June 2020, following the completion of a number of infrastructure and gas development projects. Other CSG activity, such as drilling and maintenance, also declined over this period as companies responded to low gas prices and COVID-19 (QGSO, 2020). Compared with June 2019, there were relatively few related infrastructure activities—such as power station maintenance and road works—in progress in June 2020.

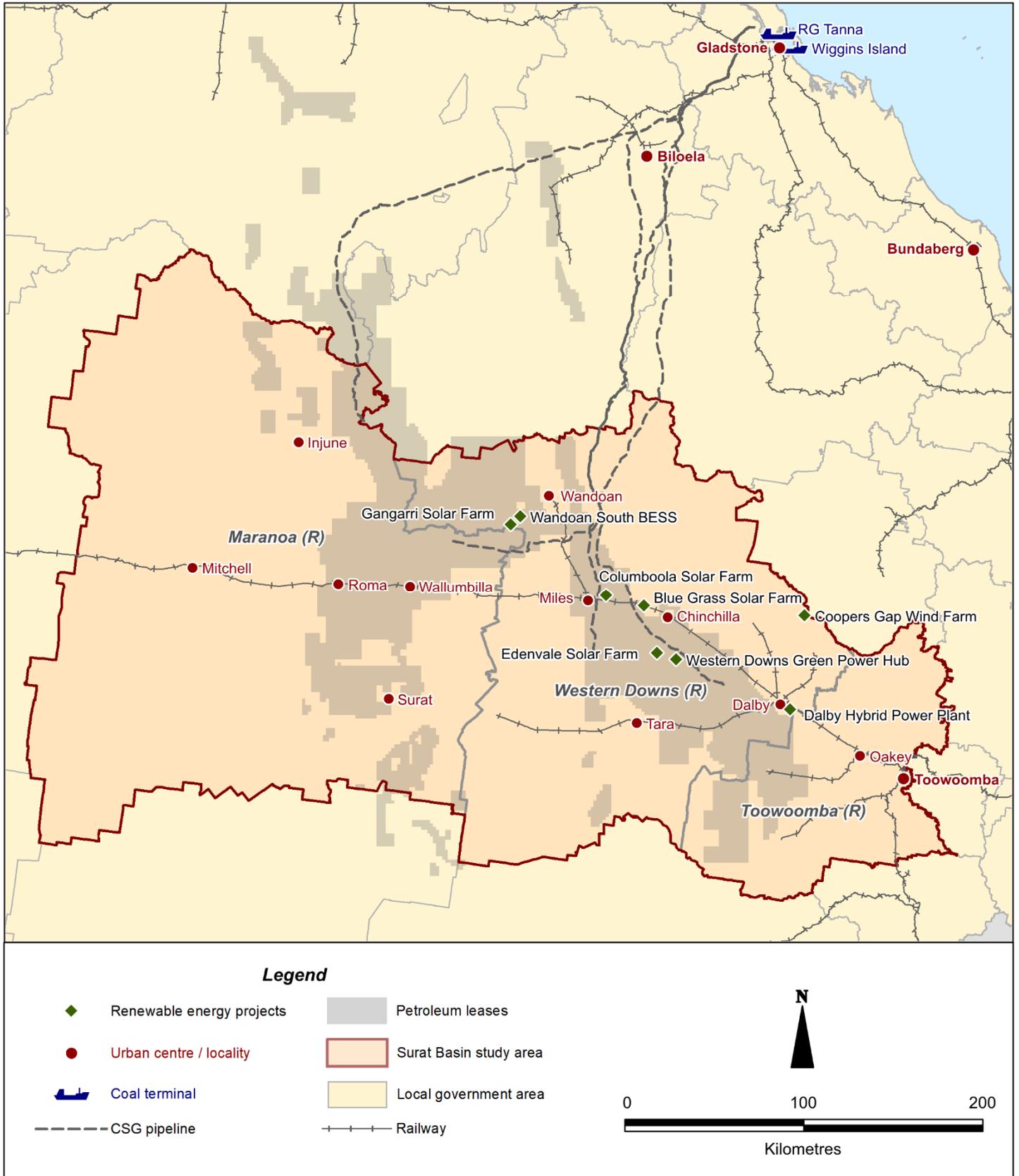
CSG activity in the Surat Basin remained relatively subdued in 2020–21, as the three major CSG projects continued to adapt their operations and drilling activities in response to uncertain market conditions. While new CSG development contributed to the increase, growth in the region's non-resident population over this period was mainly driven by construction activity at multiple renewable energy projects in Western Downs (R). On completion, these large, temporary construction workforces will be replaced by smaller operational workforces.

Figure 2 Non-resident population, Surat Basin LGAs, as at June

Note: Estimates for 2008 do not include Toowoomba (R). Data for the Surat Basin were not collected in 2009 and estimates are extrapolated from 2008 data.

Source: QGSO estimates

Figure 3 Surat Basin study area^(a)



(a) Includes renewable energy projects under construction as at June 2021. Includes petroleum lease (PL) applications and PLs granted as at June 2021.

Source: QGSO, 2021

FTE population estimates

In June 2021, the Surat Basin had an estimated FTE population of 222,400 persons, comprising 218,780 residents and 3,625 non-resident workers on-shift (Table 2). Non-resident workers on-shift made up less than 2% of the region's FTE population.

At the LGA level, Toowoomba (R) had the region's largest FTE population (171,540 persons), with the non-resident component making up less than 1% of the total. Non-resident workers on-shift accounted for 7% of Western Downs (R)'s FTE population of 37,300 persons, and 6% of Maranoa (R)'s FTE population of 13,560 persons.

Full-time equivalent population

The FTE population measure is the sum of the resident population (people who live in the area permanently) and the non-resident population (i.e. the number of non-resident workers on-shift).

The FTE population measure provides a more complete estimate of total demand for certain services and infrastructure in regions with a high incidence of FIFO/DIDO workers.

Table 2 FTE population estimates, Surat Basin LGAs and selected UCLs, June 2021

LGA	Location ^(a)	UCL	Resident population ^(b)	Non-resident population	FTE population
			— persons —		
Maranoa (R)	In town	Roma	6,935	105	7,040
		Other towns ^(c)	1,720	30	1,755
	Rural areas		4,035	730	4,765
Maranoa (R) total			12,695	865	13,560
Toowoomba (R)	In town	Toowoomba	105,455	90	105,545
		Other towns ^(c)	41,295	30	41,325
	Rural areas		24,670	0	24,670
Toowoomba (R) total			171,425	120	171,540
Western Downs (R)	In town	Chinchilla	6,525	925	7,450
		Dalby	12,085	255	12,340
		Miles	1,330	150	1,480
		Wandoan	345	400	745
		Other towns ^(c)	2,390	5	2,390
	Rural areas		11,990	910	12,900
Western Downs (R) total			34,660	2,640	37,300
SURAT BASIN TOTAL			218,780	3,625	222,400

(a) Refer to Notes at end of report for explanation of 'in town' and 'rural areas'.

(b) QGSO unpublished data.

(c) UCLs with only one accommodation provider or fewer than 20 non-resident workers are aggregated in 'Other towns'.

Source: QGSO estimates

Non-resident population by location

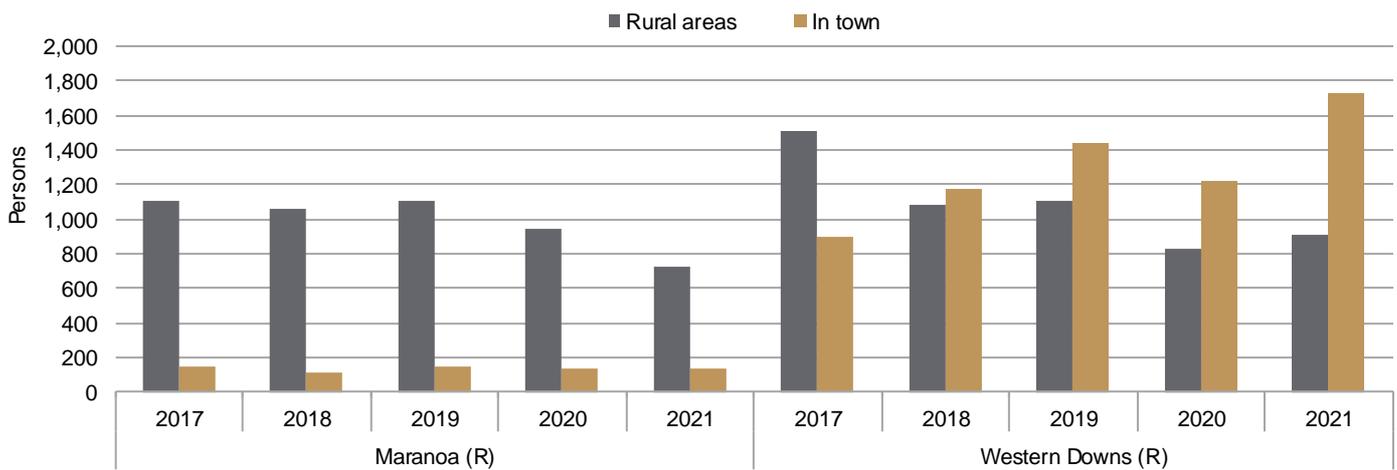
In June 2021, 1,985 non-resident workers on-shift in the Surat Basin (or 55% of the total) were counted in town, compared with 1,635 persons (or 45%) in rural areas (Table 2). This distribution varied across the three LGAs. In Maranoa (R), comparatively few non-resident workers on-shift were counted in town (135 persons or 16%), while in Western Downs (R), most stayed in town (1,730 persons or 66%). All non-resident workers on-shift in Toowoomba (R) were counted in town.

Several urban centres and localities (UCLs) in the Surat Basin housed non-resident workers on-shift in June 2021. The four UCLs with the largest non-resident populations were in Western Downs (R)—Chinchilla (925 persons), Wandoan (400 persons), Dalby (255 persons) and Miles (150 persons). In Maranoa (R), the UCL with the largest non-resident population was Roma (105 persons).

In Maranoa (R), most non-resident workers on-shift have historically stayed in rural areas (Figure 4), due to the remote location of most gas industry activity in the LGA. The decline in Maranoa (R)'s non-resident population in 2020–21 was due to a reduction in CSG activity and associated decrease in the number of non-resident workers on-shift in rural areas (–215 persons). Numbers in town remained stable over this period.

By comparison, in Western Downs (R), the relative proximity of CSG operations and projects to population centres has enabled greater use of in-town accommodation by non-resident workers. Since June 2018, the number of non-resident workers staying in town each year has exceeded the number staying in rural areas. This shift can be attributed to a combination of influences, including changes in the location of CSG activity and gas company policies encouraging use of in-town accommodation. The trend towards larger non-resident populations in town continued in 2020–21, with a sizeable increase in numbers (up by 505 persons), mainly in the towns of Wandoan, Dalby and Chinchilla. Growth in town was largely due to construction activity at nearby renewable energy projects. There was also a small increase in rural areas over this period (up by 80 persons).

Figure 4 Non-resident population by location^(a), Maranoa (R) and Western Downs (R), as at June



(a) Refer to Notes at end of report for explanation of 'in town' and 'rural areas'.

Source: QGSO estimates

Non-resident worker accommodation

WAVs remain the predominant accommodation type in the Surat Basin, accounting for eight in ten non-resident workers on-shift in the region in June 2021 (2,885 persons or 80%). The remainder of the non-resident population (740 persons or 20%) stayed in other accommodation such as hotels/motels and caravan parks (Table 3).

Growth in the Surat Basin's non-resident population between June 2020 and June 2021 saw an increase in the number of workers counted in both accommodation types. The number of non-resident workers on-shift staying in other accommodation increased by 190 persons, while numbers in WAVs grew by 175 persons.

Western Downs (R) and Maranoa (R) showed different trends in worker accommodation usage in 2020–21. Western Downs (R) recorded increased numbers of non-resident workers on-shift in both WAVs (up by 430 persons) and other accommodation (up by 155 persons). This growth was driven by renewable energy project construction as well as CSG operations and development activity. In Maranoa (R), a notable decrease in numbers in WAVs (down by 260 persons) outweighed a small increase in numbers in other accommodation (up by 45 persons). As noted above, the non-resident population decline in Maranoa (R) was associated with a reduction in CSG activity, which mainly affected the number of non-resident workers on-shift in rural areas.

Worker accommodation villages (WAVs)

WAVs are commonly used to house non-resident workers on-shift. WAVs typically consist of demountable dwellings arranged in a village, with common dining, laundry and recreational facilities.

Table 3 Non-resident population by accommodation type, Surat Basin LGAs, as at June

LGA	WAVs	Other ^(a)	Total	WAVs	Other ^(a)	Total
	2021			Change, 2020–21		
	— persons —					
Maranoa (R)	740	125	865	-260	45	-210
Toowoomba (R) ^(b)	0	120	120	0	-10	-10
Western Downs (R)	2,145	495	2,640	430	155	585
SURAT BASIN TOTAL	2,885	740	3,625	175	190	365

(a) 'Other' includes hotels/motels, caravan parks and other accommodation. Refer to Notes at end of report for additional information.

(b) There were no WAVs located in Toowoomba (R) in June 2020 or June 2021.

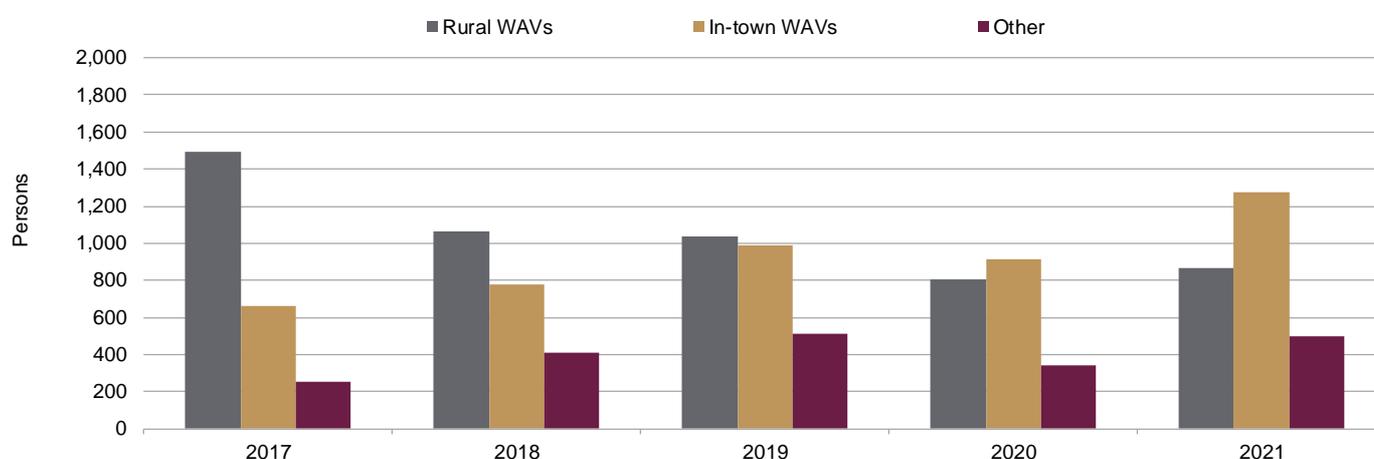
Source: QGSO estimates

In the Surat Basin, WAVs located in rural areas generally have different characteristics from those located in town. Rural WAVs are usually occupied by a single CSG company and/or their contractors. They include permanent and temporary company-operated camps, and small mobile camps located near drilling rigs. Many rural WAVs—particularly the mobile drilling camps—can change size and location in response to changes in the location and levels of CSG activity. In contrast, in-town WAVs in the Surat Basin are generally commercially operated businesses in a fixed location. The clientele of in-town WAVs comes from a wider base of companies and industries, including renewable energy construction, coal industry and other workers, as well as CSG production, drilling and maintenance workforces.

In Western Downs (R), WAVs are situated in both rural areas and in town, while other accommodation types such as hotels and motels are predominantly in town. As noted, (Figure 4), in recent years there has been a trend towards greater use of in town accommodation in Western Downs (R). This is especially evident in the decline in the number of non-resident workers on-shift in rural WAVs and growth in WAVs in town (Figure 5).

Since June 2017, the number of non-resident workers on-shift in rural WAVs in Western Downs (R) has decreased overall (from 1,490 persons in June 2017 to 870 persons in June 2021), while the number in WAVs in town has increased (from 660 persons in June 2017 to 1,275 persons in June 2021). In June 2020, the number of non-resident workers on-shift counted in WAVs in town exceeded those in rural WAVs for the first time since 2017.

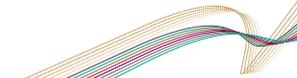
Non-resident population growth in Western Downs (R) in 2020–21 saw increased usage of all accommodation types. In town WAVs recorded the largest growth (up by 365 persons), followed by other accommodation (up by 155 persons). These increases largely reflect greater demand for in-town accommodation from renewable energy construction workers, in addition to continuing use by CSG industry workers. The number of non-resident workers on-shift in rural WAVs also rose over this period (up by 65 persons), reversing the decline of previous years.

Figure 5 Non-resident population by accommodation type^(a) and location^(b), Western Downs (R), as at June


(a) 'Other' includes hotels/motels, caravan parks and other accommodation. Refer to Notes at end of report for additional information.

(b) Refer to Notes at end of report for explanation of 'in town' and 'rural areas'.

Source: QGSO estimates



The proportion of hotel/motel rooms in the Surat Basin that were vacant and available fell from 51% in June 2020 to 37% in June 2021, which is close to levels recorded in June 2019 (38%) (Table 4). This reflects a return to more regular operating conditions following significant disruptions caused by the COVID-19 pandemic in 2020 (QGSO, 2020), as well as increased demand from non-resident workers and other guests in some areas.

All three Surat Basin LGAs recorded reduced availability of hotel/motel rooms in 2020–21. Maranoa (R) experienced the largest decline in the proportion of vacant and available rooms (from 50% in June 2020 to 21% in June 2021), due to increased usage by non-resident workers and other travellers. Reduced availability in Western Downs (R) (from 44% in June 2020 to 33% in June 2021) can be partly attributed to increased demand for in-town accommodation from construction workers at nearby renewable energy projects. While the proportion of vacant and available rooms in Toowoomba (R) also fell (from 56% in June 2020 to 45% in June 2021), it remained above 2019 levels (39%). A number of hotel/motel operators in Toowoomba (R) reported that reservations continued to be affected by COVID-19 restrictions, including lockdowns in Brisbane and interstate, at the time of the survey in June 2021.

Table 4 Vacant and available hotel/motel rooms, Surat Basin LGAs, as at June

LGA	Occupied by non-resident workers	Vacant and available ^(a)	Balance ^(a)	Total hotel/motel rooms ^(a)	Vacant and available hotel/motel rooms		
					2021		
					2019	2020	2021
		— rooms —			— % —		
Maranoa (R)	110	125	380	615	42	50	21
Toowoomba (R)	70	805	915	1,790	39	56	45
Western Downs (R)	340	365	410	1,115	35	44	33
SURAT BASIN TOTAL	520	1,300	1,705	3,520	38	51	37

(a) Refer to Notes at end of report for explanation of 'vacant and available' and 'balance'.

Source: QGSO estimates

Accommodation usage in the Surat Basin, 2020–21

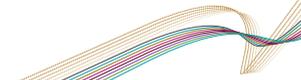
Qualitative information gathered from QGSO's Survey of Accommodation Providers, conducted in June 2021, provides an insight into the ongoing impacts of the COVID-19 pandemic and other factors on the accommodation sector in the Surat Basin. More than half (61%) of the survey responses in the Surat Basin included qualitative data. In 2020, sentiments expressed by accommodation providers were predominantly negative, due mostly to the impacts of COVID-19 (QGSO, 2020). By comparison, comments received in 2021 were more positive, and on the whole indicate an improvement in business conditions over this period.

For Surat Basin WAVs, comments received in 2021 were broadly positive. Some in-town WAV operators reported accommodation demand from construction workers at renewable energy construction projects in Western Downs (R), while noting that this demand is expected to reduce as construction is completed. In-town WAV operators also commented that industry demand had recovered following the impact of COVID-19 on construction workforces in 2020 and expressed optimism about expected upcoming activity.

Compared with WAVs, which exclusively accommodate FIFO/DIDO workers, hotels/motels and caravan parks typically cater for a broad clientele that also includes business travellers, tourists and other guests. Across the Surat Basin, many of these other establishments reported that business had improved since mid-2020. Previously these accommodation providers reported widespread adverse impacts, as COVID-19 travel restrictions and containment measures affected all visitor types.

In Maranoa (R) and Western Downs (R), hotel/motel and caravan park operators reported strong demand from tourists and other travellers in 2021. Establishments in some towns in these LGAs also benefitted from nearby renewable energy construction projects and increased demand from gas industry workers.

Compared with Maranoa (R) and Western Downs (R), other accommodation providers in Toowoomba (R) reported significant ongoing impacts due to COVID-19 restrictions. Many establishments commented that they were adversely affected by cancellations of bookings and events due to lockdowns in Brisbane and interstate at the time of the 2021 survey. Overall, responses from Toowoomba (R) indicate that while business had improved since mid-2020, demand was up and down over this period and had yet to recover to pre-COVID levels.

**Table 5 Existing resource operations and projects under construction^(a), Surat Basin, June 2021**

Category	Operation / project name	Company name	LGA
CSG	APLNG Drilling and Completions	APLNG ^(b)	Maranoa (R), Western Downs (R)
CSG	APLNG Surat Operations and Gas Gathering	APLNG	Maranoa (R), Western Downs (R)
CSG	Arrow Energy Surat Operations	Arrow Energy	Toowoomba (R), Western Downs (R)
RE	Blue Grass Solar Farm	X-ELIO	Western Downs (R)
RI	Braemar Power Station	Alinta Energy	Western Downs (R)
RI	Braemar 2 Power Station	Arrow Energy	Western Downs (R)
CM	Cameby Downs Mine	Yancoal Australia	Western Downs (R)
RE	Columboola Solar Farm	Hana Financial Investment	Western Downs (R)
CM	Commodore Mine	Millmerran Power Partners	Toowoomba (R)
RI	Condamine Power Station	QGC	Western Downs (R)
RE	Coopers Gap Wind Farm	AGL Energy	Western Downs (R)
RI	Daandine Power Station	Energy Infrastructure Investments	Western Downs (R)
RE	Dalby Hybrid Power Plant	FRV Australia	Western Downs (R)
RI	Darling Downs Power Station	Origin Energy	Western Downs (R)
CSG	Denison South (Yellowbank)	Denison Gas	Maranoa (R)
RE	Edenvale Solar Park	Sapphire Energy	Western Downs (R)
RE	Gangarri Solar Farm	Shell Energy	Western Downs (R)
CSG	GLNG Drilling and Completions	GLNG ^(c)	Maranoa (R), Western Downs (R)
CSG	GLNG Surat Operations and Gas Gathering	GLNG	Maranoa (R), Western Downs (R)
CSG	Kincora Project	Armour Energy	Maranoa (R)
CM	Kogan Creek Mine	CS Energy	Western Downs (R)
RI	Kogan Creek Power Station	CS Energy	Western Downs (R)
RI	Millmerran Power Station	InterGen	Toowoomba (R)
CM	New Acland Mine	New Hope Group	Toowoomba (R)
RI	Oakey Power Station	Shell Energy	Toowoomba (R)
RE	Oakey Solar Farm	Canadian Solar	Toowoomba (R)
CSG	Project Atlas	Senex Energy	Western Downs (R)
CSG	QCLNG Drilling and Completions	QCLNG ^(d)	Western Downs (R)
CSG	QCLNG Surat Operations and Gas Gathering	QCLNG	Western Downs (R)
CSG	Roma North Gas Processing Facility Expansion	Jemena	Maranoa (R)
RI	Roma Power Station	Origin Energy	Maranoa (R)
CSG	Surat Gas Project	Arrow Energy	Toowoomba (R), Western Downs (R)
RE	Wandoan South BESS	Vena Energy	Western Downs (R)
RE	Western Downs Green Power Hub	Neoen Australia	Western Downs (R)
CSG	Western Surat Gas Project	Senex Energy	Maranoa (R)

CM = coal mine CSG = coal seam / conventional gas RE = renewable energy RI = related infrastructure

(a) Includes coal mining operations, CSG operations, other resource industry-related infrastructure, and projects under construction as at June 2021.

(b) Australia Pacific LNG (APLNG) is a joint venture between Origin Energy, ConocoPhillips and Sinopec.

(c) Santos Gladstone LNG (GLNG) is a joint venture between Santos, PETRONAS, Total and KOGAS.

(d) Queensland Curtis LNG (QCLNG) is a joint venture between QGC, CNOOC and Tokyo Gas.

Source: QGSO 2021

**Notes**

(R) – Regional Council UCL – Urban Centre/Locality

Data in this report are derived from surveys conducted by QGSO in 2021 and other sources. The Survey of Accommodation Providers counted non-resident workers staying in worker accommodation villages (WAVs), hotels/motels, caravan parks and other commercial accommodation on a medium to long-term basis during the last week of June 2021. Short-term and overnight visitors are not regarded as non-resident workers. The Resource Employment Survey collected workforce information from all resource companies with existing operations and projects in the Surat Basin as at June 2021.

Non-resident workers are people who fly-in/fly-out or drive-in/drive-out (FIFO/DIDO) to work and live in the area temporarily while rostered on, and who have their usual place of residence elsewhere. This group includes employees, contractors and associated sub-contractors employed in construction, production, and maintenance at mining and gas industry operations, renewable energy projects and resource related infrastructure. Figures in this report refer to the number of non-resident workers on-shift or present in the area at a given point in time and should not be confused with total non-resident workforce numbers.

Non-resident population data presented in this report are a point-in-time measure, based on the best information available at the time of the surveys. Non-resident worker numbers may vary in response to changing production demands, prevailing weather and industrial disputes. At the time of the 2021 surveys, the number of non-resident workers on-shift in the Surat Basin was unaffected by widespread adverse weather events or industrial action.

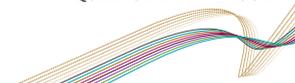
Resident population estimates for 2021 are QGSO estimates.

'In town' includes populations counted in defined urban centres and localities (UCLs), as well as non-resident workers housed within 5km of town. 'Rural areas' include populations outside of defined UCLs, including non-resident workers more than 5km from town.

'Other' accommodation includes hotels, motels, caravan parks and other private rental accommodation.

'Vacant and available' refers to hotel/motel rooms that were not occupied by non-resident workers or other guests and were vacant and available on the night of the survey. 'Balance' includes hotel/motel rooms occupied by short-term visitors, held for non-resident workers under permanent booking arrangements although not actually occupied on the night of the survey, or otherwise unavailable to prospective guests.

Figures in tables have been rounded to the nearest five. As a result of rounding, discrepancies may occur between sums of the component items and totals. Percentages and other calculations are made prior to rounding of figures and discrepancies might therefore exist between these calculations and those that could be derived from the rounded figures.



References

- Arrow Energy (2020) *Start planned for Arrow's Surat Gas Project*, 17 April 2020 <https://www.arrowenergy.com.au/media/media-releases/current-releases/arrow-sanctions-start-to-sgp>
- Arrow Energy (2021) *Surat Gas Project – Area wide planning update, Duleen Kupunn area*, 14 May 2021 https://www.arrowenergy.com.au/_data/assets/pdf_file/0004/33079/Surat-Gas-Project-Area-wide-planning-update-14-May-2021.pdf
- Columboola Solar Farm (2021) *Columboola Solar Farm – The Solar Farm* <https://columboolasolarfarm.com.au/the-solar-farm/>
- Department of Industry, Science, Energy and Resources (DISER) (2021) *Resources and Energy Quarterly – September 2021*, Office of the Chief Economist <https://publications.industry.gov.au/publications/resourcesandenergyquarterlyseptember2021/documents/Resources-and-Energy-Quarterly-September-2021.pdf>
- FRV Australia (2021) *FRV to carry out its first hybrid Solar-Storage project in Australia*, 17 June 2021 <https://frv.com/en/frv-desarrollara-su-primer-proyecto-hibrido-de-energia-solar-y-baterias-en-australia/>
- Jemena (2021) *Roma North Gas Processing Facility Expansion Delivers Boost to Maranoa Region*, 2 September 2021 <https://jemena.com.au/about/newsroom/media-release/2021/roma-north-gas-processing-facility-expansion-deliv>
- Origin Energy (2021a) *2021 Annual Report*, 17 September 2021 https://www.originenergy.com.au/wp-content/uploads/annual_report_fy2021.pdf
- Origin Energy (2021b) *Quarterly Report June 2021*, 30 July 2021 https://www.originenergy.com.au/wp-content/uploads/210729_qr_jun21_final.pdf
- Powering Australian Renewables Fund (PARF) (2021) *Coopers Gap Wind Farm Social Impact Management Report 2020–2021* https://www.agl.com.au/content/dam/digital/agl/documents/about-agl/how-we-source-energy/coopers-gap-wind-farm/210817_coopers_gap_wind_farm_social_impact_management_report_jul20-jun21.pdf
- Powerlink (2021) *Gangarri Solar Farm Connection Project* <https://www.powerlink.com.au/projects/gangarri-solar-farm-connection-project>
- Queensland Government Statistician's Office (QGSO) (2020) *Surat Basin population report, 2020* <https://www.qgso.qld.gov.au/statistics/theme/population/non-resident-population-queensland-resource-regions/surat-basin#current-release-surat-basin-population-report>
- Santos (2021) *Santos 2021 half-year results*, 17 August 2021 <https://www.santos.com/wp-content/uploads/2021/08/2021-Half-year-Results-Announcement-and-Presentation.pdf>
- Senex Energy (2021) *Annual Report 2021* https://www.senexenergy.com.au/wp-content/uploads/2021/09/SEE5052-120PP-Annual-Report-2020-2021_FA-WEBVERSION-1.pdf
- Shell (2021) *Surat Basin Operations Update*, accessed 14 September 2021 <https://www.shell.com.au/about-us/projects-and-locations/qgc/community/surat-basin-operations-update.html>
- Shell Energy (2021) *Why we invest in Australia – Gangarri Solar Farm* <https://shellenergy.com.au/decarbonisation/investing-in-australia/>
- Sojitz Corporation (2021) *Sojitz begins construction on one of the largest-scale solar farms by Japanese companies in Australia*, 10 June 2021 <https://www.sojitz.com/en/news/2021/06/20210610.php>
- Sterling and Wilson (2020) *Western Downs Green Power Hub* <https://www.westerndownssolar.com.au/>
- Vena Energy (2020) *Vena Energy Australia Achieves Financial Close for Queensland's Biggest Battery Energy Storage System*, 15 December 2020 https://www.venaenergy.com.au/all_news/vena-energy-australia-achieves-financial-close-for-queenslands-biggest-battery-energy-storage-system/
- X-ELIO (2021) *Blue Grass* <https://x-elio.com/project/bluegrass/>